

PATENT APPLICATION

## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of

Akio MATSUNAGA et al.

Application No.: New U.S. National Stage of  
PCT/IB03/03258

Filed: February 4, 2005

Docket No.: 122544

For: EGR CONTROL DEVICE AND METHOD FOR INTERNAL COMBUSTION ENGINE

INFORMATION DISCLOSURE STATEMENTCommissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

Pursuant to 37 CFR §1.56, the attention of the Patent and Trademark Office is hereby directed to the references listed on the attached PTO-1449. Unless otherwise indicated herein, one copy of each reference is attached. It is respectfully requested that the information be expressly considered during the prosecution of this application, and that the references be made of record therein and appear among the "References Cited" on any patent to issue therefrom.

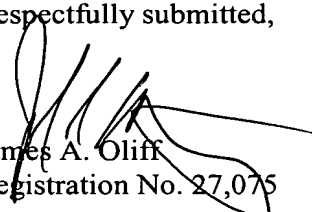
- ☒ 1. This Information Disclosure Statement is being filed (a) within three months of the U.S. filing date of this non-CPA application, OR (b) before the mailing date of a first Office Action on the merits in the present application. No certification or fee is required.
- ☒ 2. Relevance of the non-English language reference 3 is discussed in the present specification.
- ☒ 3. In accordance with 37 CFR §1.98(a)(2)(ii), copies of any U.S. patents and patent application publications are not attached.
- ☒ 4. A concise explanation of the relevance of the non-English language references 3-8 appears in the Appendix attached hereto.
- ☒ 5. English language Abstracts of the non-English language references 3-7 are attached hereto.

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6. A computer-generated English language translation of the following Japanese references has been obtained from the website of the Japanese Patent Office ([<http://www.jpo.go.jp>]), and is attached, but has not been reviewed for accuracy. See References 3-7.

Respectfully submitted,

  
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Sheet 1 of 1

Form PTO-1449 (REV. 8-83)		US Dept. of Commerce PATENT & TRADEMARK OFFICE		ATTY DOCKET NO. 122544		APPLICATION NO. New U.S. National Stage of PCT/IB03/03258	
INFORMATION DISCLOSURE STATEMENT  (Use several sheets if necessary)				APPLICANTS Akio MATSUNAGA et al.			
				FILING DATE February 4, 2005		GROUP	

U.S. PATENT DOCUMENTS						
EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB CLASS
	1	5,201,303	4/13/1993	KOJIMA		
	2	6,000,385	12/14/1999	FUKUMA		

FOREIGN PATENT DOCUMENTS						
		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB CLASS
	3	JP A 10-141147 w/ abstr & transl	5/26/1998	JAPAN		
	4	JP A 10-288043 w/ abstr & transl	10/27/1998	JAPAN		
	5	JP A 7-174048 w/ abstr & transl	7/11/1995	JAPAN		
	6	JP A 9-126060 w/ abstr & transl	5/13/1997	JAPAN		
	7	JP A 9-4519 w/ abstr & transl	1/7/1997	JAPAN		
	8	JP U 63-125160	8/16/1988	JAPAN		

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, etc.)		

EXAMINER	DATE CONSIDERED
Examiner: Initial if citation considered, whether or not citation is in conformance with M.P.E.P. 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.	

Date: February 4, 2005

ABSTRACT

Japanese Patent Publication	File Date	Publication Date	Comments
JP-A-10-141147	1996/11/14	1998/5/26	A feed-back control is performed while the a target calculated EGR rate is calculated as a ratio between EGR rate and an air excessive rate so that an air-intake oxygen level is controlled to be constant.
JP-A-10-288043	1997/4/16	1998/10/27	A relational expression for the ideal air excess rate and EGR rate under the current operating condition of an engine is grasped. The recirculating exhaust gas amount is controlled according to the deviation between the current EGR rate and the EGR rate relative to the current air excess rate in the relational expression.
JP-A-7-174048	1993/12/20	1995/7/11	The actual EGR rate is calculated on the basis of the intake air quantity, the internal pressure of the intake pipe and internal pressure of the EGR pipe. The EGR flow rate of the EGR valve is controlled so that the actual EGR rate accords with the target EGR rate.
JP-A-9-126060	1995/11/8	1997/5/13	The oxygen-fuel ratio is compared with the allowable smoke limit value, and when the oxygen-fuel ratio is smaller, the EGR valve is controlled so that the oxygen-fuel ratio is equal to the allowable smoke limit value.

JP-A-9-4519	1995/6/16	1997/1/7	The basic EGR rate set in advance according to an operating condition is compared with the limit EGR rate. If the basic EGR rate is larger than the limit EGR rate, the output EGR rate is controlled to be equal to the limit EGR rate.
JP-U-63-125160	1987/2/6	1988/8/16	With regard to the EGR gas amount which is defined by the target fuel injection amount and the engine revolution speed, a guard value is set against the EGR gas amount in accordance with the engine revolution speed.
US Patent	File Date	Issue Date	Comments
US 5,201,303	1992/6/16	1993/4/13	
US 6,000,385	1997/10/31	1999/12/14	